

9 substance within an airtight vessel formed of a gas impermeable
10 material,

11 heating and melting said compound raw material in [the] said
12 crucible or said boat sealed [state] within said airtight vessel,
13 and

14 solidifying said melted compound raw material to grow a
15 carbon-doped compound semiconductor crystal.

1 2. (amended) The method of preparing a carbon-doped group III-V
2 compound semiconductor crystal according to claim 1, [wherein said
3 step of heating and melting the compound material comprises the] further
4 comprising a step of heating and melting said boron oxide
5 substance and having said melted [to bring the heat-melted] boron
6 oxide substance in[to] contact with at least a portion of [the]
7 said solid carbon, during said step of heating and melting said
8 compound raw material.

Claim 3, line 1, after "a" insert --carbon-doped--.

1 4. (amended) The method of preparing a carbon-doped group III-V
2 compound semiconductor crystal according to claim 1, wherein said
3 boron oxide substance comprises boron oxide and [contains] water.

1 5. (amended) The method of preparing a carbon-doped group III-V
2 compound semiconductor crystal according to claim 4, wherein said
3 boron oxide substance contains [water of] 10-500 wt ppm of said
4 water.

1 6. (amended) The method of preparing a carbon-doped group III-V
2 compound semiconductor crystal according to claim 1, wherein an
3 amount of said [filled] solid carbon placed into said crucible or
4 said boat is larger than [the] an amount of carbon doped into
5 said compound semiconductor crystal.

1 6/7. (amended) [A] The method of preparing a carbon-doped group
2 III-V compound semiconductor crystal according to claim 1, wherein
3 [the] said amount of said [filled] solid carbon placed
4 into said crucible or said boat is at least 10 times larger than
5 [the] said amount of carbon doped into said compound
6 semiconductor crystal.

1 7. (amended) The method of preparing a carbon-doped group III-V
2 compound semiconductor crystal according to claim 1, further
3 comprising a step of subjecting [wherein] said solid carbon [is
4 subjected] to a heat treatment under reduced pressure before
5 placing said solid carbon into [filling] said crucible or said
6 boat.

1 8. (amended) The method of preparing a carbon-doped group III-V
2 compound semiconductor crystal according to claim 1, comprising
3 carrying out [wherein] said heat treatment [is carried out] for 1
4 hour to 12 hours at a temperature of 500°C-2000°C under a
5 pressure of 1 Torr - 1×10^{-8} Torr.

1 9. (amended) The method of preparing a carbon-doped group III-V
2 compound semiconductor crystal according to claim 1, [wherein]
3 further comprising a step of maintaining said melted compound raw
4 material [is kept] in a melted state for a certain time period

5 before said step of solidifying said melted raw material [being
6 solidified] to grow [a] said crystal.

10
11. (amended) The method of preparing a carbon-doped group III-V
compound semiconductor crystal according to claim ⁹10, wherein
said step of maintaining said melted compound raw material [is
kept] in a melted state is carried out for 3-72 hours.

Claim 12, line 1, after "a" insert --carbon-doped--.

Claim 13, line 1, after "a" insert --carbon-doped--;
line 3, after "powder" delete "solid".

Claim 14, line 1, after "a" insert --carbon-doped--.

Claim 15, line 1, after "a" insert --carbon-doped--;
line 3, after "fiber" delete "solid".

Claim 16, line 1, after "a" insert --carbon-doped--.

16
17. (amended) The method of preparing a carbon-doped group III-V
compound semiconductor crystal according to claim ¹⁵16, wherein
said bulk [solid] carbon has a disk shape with a disk diameter
smaller than an inner diameter of said crucible.

Claim 18, line 1, after "a" insert --carbon-doped--;
line 3, after "bulk" delete "solid".

Claim 19, line 1, after "a" insert --carbon-doped--;
line 3, after "or" insert --said--.

19
20. (amended) The method of preparing a carbon-doped group III-V
compound semiconductor crystal according to claim 1, wherein said
compound raw material comprises GaAs, and wherein said [group III-V]
compound semiconductor crystal comprises a GaAs crystal.

Please enter new claims 21 to 23 as follows.

20
21. The method of preparing a carbon-doped group III-V compound semiconductor crystal according to claim 2, further comprising having said melted boron oxide substance in contact with at least a portion of said melted compound raw material, during said step of heating and melting said compound raw material.

21
22. The method of preparing a carbon-doped group III-V compound semiconductor crystal according to claim 1, further comprising selecting a target amount of said carbon to be doped into said compound semiconductor crystal, and adjusting said amount of said solid carbon placed into said crucible or said boat so as to responsively achieve said target amount of said carbon to be doped into said semiconductor crystal.

22
23. The method of preparing a carbon-doped group III-V compound semiconductor crystal according to claim 1, carried out such that said carbon-doped compound semiconductor crystal has a variation of carbon concentration of not more than 8 1/2 % between a lowest carbon concentration and a highest carbon concentration, relative to said lowest carbon concentration.

In the Abstract:

Page 32, line 2, after "method" replace "of" by --is provided for--; after "preparing" replace "in" by --, with--; after "reproducibility" insert --,--, after "a" insert --carbon-doped--;
line 3, after "crystal" replace "of" by --having--;